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A PECULIAR TOAD.

F. L. WASHBURN, A.M.

IN 1896 Mr. J. R. Wetherbee, a student in our biological laboratory, was the recipient of a curious specimen, a toad (*Bufo Columbiensis* Baird and Girard) having an extra arm projecting at an angle from the left side just in front of the normal left arm. The species is not uncommon in parts of



Oregon, but the finding of one with a fifth limb is of rare occurrence, possibly unknown hitherto. The abnormal arm was 3 centimeters in length. Apart from this peculiarity the specimen appeared and acted like any other toad, apparently in no way inconvenienced by this extraordinary lavishness of nature. The extra arm was supplied with 7 digits, and, though not provided with an elbow joint, it could be moved and was moved to a slight extent at the proximal joint next the body.

A photograph of this curious animal was taken by the author and is reproduced on the preceding page.

A drawing of the pectoral girdle and fore limbs is reproduced below (Fig. 1). The ulna and radius of the abnormal arm are separate bones, not fused as they are normally; the proximal

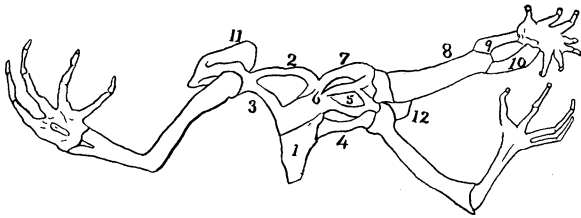


FIG. 1.

end of each is attached to the humerus by intervening cartilage; there are no distinct carpalia, but the metacarpals are joined by cartilage directly to the two long bones, and are grotesquely noded at the proximal end: 1, sternum; 2, clavicle of right side; 3, coracoid of right side; 4, normal coracoid of left side; 5, normal clavicle of left side; 6 is opposite abnormal coracoid; 7, over abnormal clavicle; 8, humerus of abnormal arm; 9, 10, abnormal radius and ulna; 11 is over scapula and supra scapula of right side; 12 is the left scapula.

The following sketch (Fig. 2) by Mr. Wetherbee, and kindly

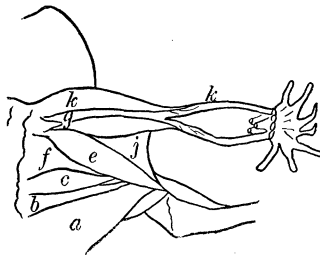


FIG. 2.

loaned for this article, was made from his dissection of the superficial muscles of the parts in question. Both Figs. 1 and 2 disclose peculiarities of internal structure which one would expect to find from a consideration of the exterior. There is,

apparently, in connection with the abnormal arm a duplication of some of the muscles of the chest and normal arm.

a = abdominal portion of pectoral muscle.

b = posterior sternal portion of pectoral muscle.

c = anterior sternal portion of pectoral muscle.

f is evidently intended by Mr. Wetherbee to represent the normal sterno-radialis, and g is probably the duplicate of f for the abnormal arm. The letter g is not distinct in the cut; it lies just below k .

k , e , and j I am in some doubt about from Mr. Wetherbee's description, and hesitate to name them. Quoting from his notes: " k , origin anterior edge of abnormal arm and a few fibres on sternum, insertion k' ; e , superficial, origin precoracoid, insertion humerus; j , attached to dorsal surface of abnormal arm and to under surface of normal arm."

He also says in his notes: "The infra spinalis muscle was nearly twice normal size, and was inserted by two tendons to the fifth arm and [by] one to the normal arm."

The blood system did not offer enough peculiarities to warrant a reproduction of the drawing; the in-going and out-going blood of the abnormal arm passed through extra branches of the subclavian artery and subclavian vein, respectively.

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UNIVERSITY OF OREGON, Sept. 20, 1898.